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ABSTRACT

This paper discusses a research project carried out to study and compare the reading processes of native and second language speakers of English. The procedure developed for the observation and description of the reading process and related language experience included initial diagnostic testing and taped inventories, a sequence of tutorial activities related to initial inventories, and final reading inventories. The results of inventories and coding sheets of first language speakers of various age levels were examined in terms of features like the following: word order, relativization, conjunction, disjunction, agreement, verb formation, progressive formation, pronominalization, seriation, and reported speech. The subject groups of native English speakers were ninth graders, tenth graders, high school seniors, and adults over the age of 25. Significant positive variations in performance were observed and these variations indicated better overall performance by those between the ages of fifteen and twenty-one than by younger or older participants. The factors under observation in the second language readers were the learner's age, prior cultural conditioning, and prior decoding skills in the first language. These three factors were found to be influential in the development of learning programs for reading proficiency and second language acquisition. (Author/CFM)

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Some Factors in Reading Proficiency and Second Language Acquisition: Age Level, Acculturation and Decoding Skills

John Schleppenbach

I have attempted to study and compare the reading processes of native and second language speakers of English by means of taped inventories and diagnostic tests, primarily for the purpose of directing individual tutorial programs in reading and writing when initially performed, but secondarily useful for the purpose of gathering data. Results obtained during the past three years, from more than 300 individuals, including more than one third from a variety of non-English-speaking backgrounds, have provided a basis for the observation of linguistic constraints and also have indicated the significance of the factors under consideration in this paper: the learner's age, in relation to maturational levels, the learner's prior cultural conditioning, in relation to language experience, and the learner's prior decoding skills in the first language.

These factors have not been sufficiently observed in psycholinguistic research, but studies in cognition, reading theory and psycholinguistics have provided a framework for ongoing research at conferences like this one, though this framework has depended on the results of research into the process of first language acquisition. The proceedings of a 1975 conference on the relationships between speech and reading, for example, gave valuable clarification to the investigation of the reading process and first language acquisition.[1] Research in cognitive psychology provided terminology and procedures suitable for dealing with the reading process in terms of such factors as long and short term memory, visual and auditory coding, and reading constraints related to syntactic rules. In this respect, it is possible to observe how mishearing and misreading differ.[2] It is also possible, from the standpoint of constraints already known, and by means of appropriate coding and inventory procedures, to examine reading proficiency in terms of second language acquisition.

However, as Noam Chomsky has asserted, in Language and Mind, the problem of language acquisition does not turn on the issue of methodology. We can observe, fruitfully, what is learned, and we can attempt to discern language-learning strategies. Innateness of such strategies must be demonstrated.[3] We must show how linguistic constraints make possible the acquisition of a system based on limited data. Furthermore, in terms of second language learning, we must recognize that instruction regarding language structure does not necessarily result in learning, since our knowledge of structures is still rudimentary. Chomsky makes the point more than once that knowledge of language is "to a large extent independent of intelligence and of wide variations in individual experience,"[4] arguing in regard to grammars that "the grammars that are in fact constructed vary only slightly among speakers of the same language, despite wide variations not only in intelligence but also in the condition under which the language is acquired."[5]

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From this point of view, knowledge of a language is the "ability to assign deep and surface structures to an infinite range of sentences, to relate these structures appropriately, and to assign a semantic interpretation and a phonetic interpretation to the paired deep and surface structures."[6] Such knowledge implies that language is species-specific and that underlying features consist of innate schemas of language components. The innate schemas make up a set of universals common to all language and the problem seems then to define stages of maturation in terms of these schemas. This view is not significantly changed by the introduction of case grammar, or semantically based linguistic theories, which Chomsky and Katz have argued are merely "notational variants" of the standard theory, though, as Roger Brown points out in A First Language, case grammar may provide a better framework for the description of children's early sentences than does any other grammar.[7] Brown further observes that: "Fillmore has abstracted the semantic relations from the process of affixation and proposed that there is a universal set of 'presumably innate' concepts which are expressed in all languages whether by affixation, suppletion, clitic particles, or word order."[8] Knowledge of a language, in either case, develops from within, in terms of innate schema, independent of variations in intelligence or individual experience.

Frank Smith, in Understanding Reading, explains that learning, from the cognitive point of view, involves three interrelated aspects: the establishment of new categories, the development of relations among categories, and the refinement of rules for the allocation of events to categories.[9] He goes on to say that: "Learning to read does not appear to have the same orderly sequence of stages as learning to speak, but while the actual skills are different, the processes by which a child sets out to learn speaking and reading have many apparent similarities. In particular, both processes can be viewed as a progressive endeavor to discover the relevant category and equivalence rules,"[10] Though learning to read and learning a second language are processes similar to learning a first language in some respects, the framework for these processes is not fully understood. There is no certainty, for example, that instruction regarding language structure necessarily results in learning. Furthermore, suggestions that second language acquisition is simplified because of experience in learning a first language, though perhaps true, cannot be demonstrated.

In regard to second language acquisition, Noam Chomsky has pointed out that we must simply observe what is learned and attempt to discern language-learning strategies. In relation to learning to read, Kenneth Goodman urges that we must, simply, respond to what the child is trying to do.[11] In developing tutorial activities involving reading proficiency and second language acquisition, I have followed these suggestions. Awareness of maturational stages, as derived from Piaget's studies of stages of development, has served as one kind of operational guideline. Because I have been involved primarily with adult learners, I have had reason to extend these stages into adult age levels. This is justified, I think, for several reasons. Chomsky, in Language and Mind, comments at one point on the notion of Humboldt derived from the rationalists and quite persistent, that language is not learned but develops from within, according to maturational stages.[12] These maturational stages may not

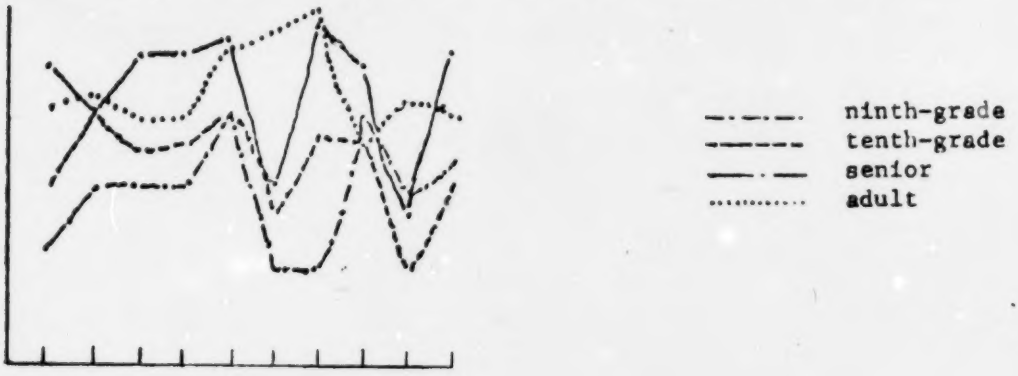
be progressive but appear early and persist through various age levels with differing influence.[13] Roger Brown supports this view, citing studies of early stages of first language acquisition where, for example, development of pluralization and progressive forms proceeds intermittently with differing emphasis through various age levels and stages of development.[14] In my work with adults, I became concerned about the formal operational stage of development (ages 11-15 years), where control of formal logic develops (conjunction, disjunction, negation, implication), and compared certain formal language operations with later age levels.

The procedure I developed for the observation and description of the reading process and related language experience included: initial diagnostic testing and taped inventories, a sequence of tutorial activities related to initial inventories, and final reading inventories. This individualized approach emerged from the programs and services available in the learning skills center at the college. Most of the information used to make up this report derives from such contacts, though graduate students, who coded much of this information, used other resources as well: courses in English as a second language, high school English courses, a reading center for grade school and high school students and a course in reading improvement for adults. Initially, reading was understood simply as a form of language experience and we sought to discover syntactic miscues which could signal this relationship.

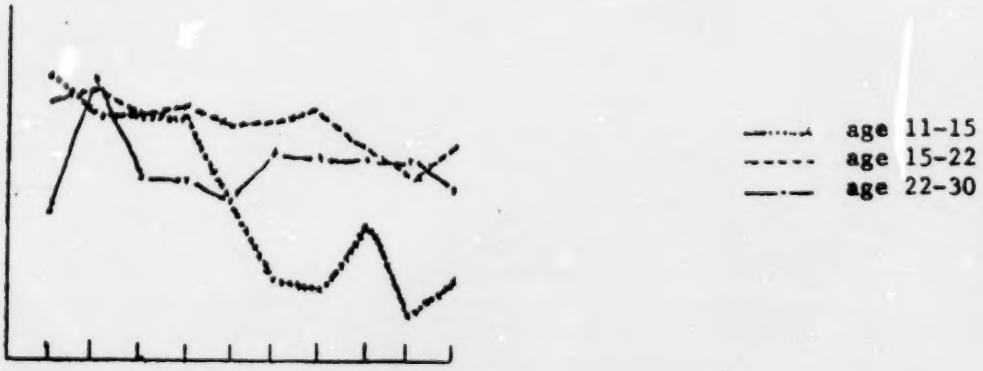
My feeling was that the fabric of language is a cultural accumulation, an idea elaborated in writings by Japanese anthropologist Eiichiro Ishida, who further contends that one's first language is the language of the maturation period, determined by the environment in which one lives from the age of about fifteen to twenty-two. Ishida refers to accounts of Japanese businessmen whose nissei children adopted a host language during adolescence; the parents of these children felt that Japanese should be presented to them as a second language.[15] Furthermore, the parents were unable to adopt the host language, as the result of native language interference, a situation commented upon by literary critic Jun Eto: "Through discipline and effort, I may be able to perfect my inadequate English. Even now, from sheer necessity, I think in English. But what Richard Blackmur calls 'the silent language', the abyss that exists before thought takes shape, is in my case ultimately Japanese."[16] From this perspective, I decided to look for evidence of age level as a factor in reading proficiency and language acquisition.

I examined results of inventories and coding sheets of first language speakers of various age levels, in terms of features like the following: 1) word order, 2) relativization, 3) conjunction, 4)disjunction, 5) agreement, 6) verb formation, 7) progressive formation, 8) pronominalization, 9) seriation, 10) reported speech. The subject groups were ninth-grade students, tenth-grade students, high school seniors, and adults over the age of twenty-five. Significant positive variations in performance were observed, and these variations indicated better overall performance by those between the ages of fifteen and twenty-two than by younger or older participants. Tenth-graders performed better than ninth-graders in terms of word order, relativization, conjunction, disjunction, verb tense formation, and progressive formation; they did not perform as well in terms

of pronominalization, seriation or reported speech. High school seniors, on the other hand, performed better in all areas except relativization and seriation, and this improvement was by a substantial margin. Adults performed better than the others in relativization, verb tense formation, progressive formation and seriation, but this improvement was by a slight margin. Graphing indicated similar configurations for ninth-grade and tenth-grade students, but little correlation for the other groups.17



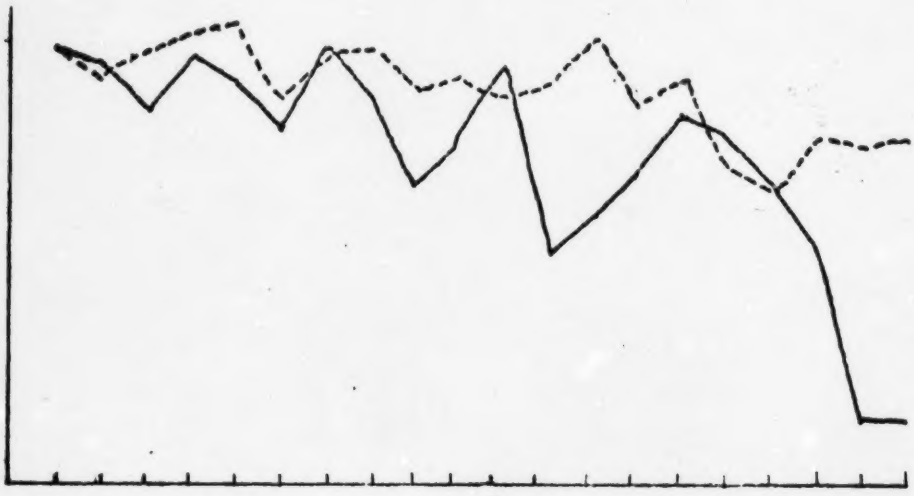

The age factor was applied to inventories of second language readers, with controls for the amount of prior acculturation (language experience with English) and decoding skills. These results were also graphed.




The subject groups included individuals in age levels of 11-15, 15-22 and 22-30. The 11-15 age group performed about as well as the 15-22 age in terms of word order, relativization, conjunction, and disjunction, but significantly less well in other areas. The 22-30 age group performed well in terms of relativization and seriation, but less well than the 15-22 age group in all other areas. This sample data suggest that age level, beyond Piaget's developmental stages, is a significant factor in reading proficiency and second language development.

Another factor, acculturation, refers specifically to prior language experience, whether foreign language or second language experience, and includes the nature of the language experience (formal classroom, informal conversation) and cultural forms related to language experience (respect forms, for example). A third factor, decoding skills, relates to acculturation as a correctional or cueing system; it refers specifically to

cueing systems and contextual clues in reading (as, for example, use of sight words, word attack skills, morphological and syntactic information). These additional factors also influence performance in significant ways. The influence of acculturation can be seen by comparison of two second language groups from different cultural and linguistic backgrounds. A diagnostic test was given to both groups and the results were selected from a common age level and compared on a graph.



In this case, the test was designed to include such factors as: verb formation, question formation, negation and preposition use.[18] There were one hundred test items in twenty categories. The most important factor suggested by this preliminary diagnosis is that, because of acculturation, the groups performed differently, as indicated by graphing. Support for this generalization was subsequently obtained in contacts with each of the two groups; in essence, though the amount of formal study of English was about the same for each group, the acculturation factor altered performance significantly. The degree to which these differences are the result of contrastive linguistic features remains to be ascertained.

The influence of prior decoding skills, though not mapped, can be observed in relation to case studies. I am using for this purpose four typical cases, each elucidating a different problem. In the first[19] case, an English-speaking reader has not developed an adequate cueing system because of the failure to develop a self-corrective mechanism in the early grades. This reader has missed a year or more of school, for a variety of reasons, and, though he or she predicts structures and reads for meaning, lacks assurance. Commonly, such a reader will have scores around the second or third grade level on standardized tests and will be unable to complete an oral reading. The reader will be unable to distinguish long and short vowels, for example, and will seldom recognize sight words or function words. Another kind of reader,[20] however, will read with assurance, though slowly and hesitantly, because of overcorrection in the early grades. This reader will also have very low test scores, but has commonly spent a great deal of time

in some form of remediation; often, this kind of reader will complain that his problem has previously been diagnosed as dyslexia and that he is a slow reader. Thus, he or she will expend unusual effort in decoding but retain very little from a reading passage, and will commonly recall the last section first. Of these two kinds of readers, I have encountered about five times as many of the first type as of the second.

In another case, a bilingual or second language reader will have difficulty because of neglect in the early grades. This reader has[21] commonly heard English spoken before entering an English-speaking school, but has spoken another language in his home environment, and has consequently not developed reading proficiency at the same time as his or her peers. Normally, such a reader has not developed awareness of sound distinctions and consequently has trouble with sound-letter relationships; also, normal morphological and syntactical cueing systems have not been developed. As a result, the reader lacks assurance and will not be able to complete an oral reading passage.

Another kind of bilingual or second language reader[22] will have difficulty because of an experience of overcorrection in the early grades. Typically, this reader has not heard English spoken before entering an English-speaking school, and has had reading experience in a prior language. The result of this kind of problem will also be an inability to complete an oral reading passage, but this reader will typically spend far more time in the decoding process. These composite descriptions may serve to suggest the importance of observing development of prior decoding skills among readers of differing backgrounds.

Four Types of Troubled Readers

| Sound-Letter Relationship | | | | | Grammatical Function | | | |
|---|---|---|---|---|---|---|---|---|
| A | B | C | D | | A | B | C | D |
| | | | | high | | | | |
| | | | X | middle | | X | | |
| X | X | X | | low | X | | X | X |

I have found the three factors described in this paper to be influential in the development of learning programs for reading proficiency and second language acquisition. But the evidence to support these findings is limited, and large-scale research efforts at uni-

versities will have better opportunities to examine these claims. Specifically, where standarized testing, by means of intelligence tests, aptitude tests or language-related tests, is being used, these control factors (age level, acculturation, decoding skills) should be taken into account, and correlations should be made with test findings. Diagnostic testing should be correlated with standardized tests in order to identify linguistic features related to these factors, and, more properly, related to unidentified features of standardized tests. It is particularly crucial that diagnostic tests designed for contrastive analysis of linguistic features of second-language learners be correlated with standardized tests, and that control factors be taken into account.

Ultimately, a better understanding of linguistic constraints applicable to the reading experiences of native and second language learners will permit greater shared predictive capacity for the learner and the pedagogue. Learning strategies, to be effective, must be supported by the educator, and such an approach requires recognition of all the factors in the learning process. Often, in the highly-structured world of classroom education, such factors are overlooked due to a variety of expedients.

Footnotes

1 See James F. Kavanagh and Ignatius G. Mattingly, eds. Language by Ear and by Eye: The Relationships Between Speech and Reading, Proceedings of a conference on "The Relationships Between Speech and Learning to Read" in a series entitled "Communicating by Language" (Cambridge: The MIT Press, 1972); also see James F. Kavanagh and James E. Cutting, The Role of Speech in Language, from the same series (Cambridge: The MIT Press, 1975).

2 Kavanagh and Mattingly, p. 307.

3 Noam Chomsky, Language and Mind (New York: Harcourt Brace Jovanovich, 1972), p. 87.

4 Chomsky, p. 64. Also see pp. 79 and 113.

5 Chomsky, p. 79.

6 Chomsky, p. 30.

7 Roger Brown, A First Language: The Early Stages (Cambridge: Harvard University Press, 1973), p. 147.

8 Brown, p. 133.

9 Frank Smith, Understanding Reading (New York: Holt, Rinehart and Winston, 1971), p. 74.

10 Smith, p. 51.

11 Kenneth S. Goodman, "Dialect Barriers to Reading Comprehension," in Ruddell, Ahern, Hartson and Taylor, eds., Resources in Reading-Language Instruction (New Jersey: Prentice-Hall, 1974), p.129.

12 Chomsky, p. 76.

13 Chomsky, pp. 184-185.

14 Brown, p. 256.

15

Eiichiro Ishida, Japanese Culture: A Study of Origins and Characteristics, tr. Teruko Kachi (Honolulu: Univ. Press of Hawaii, 1974), pp. 18-20.

16

Ishida, p. 21.

17

The diagnostic test required correct/incorrect responses to sample test items, as mentioned in the text. For example, section five included the item "Maria agree with me" and required that an 'incorrect' response be entered on the answer sheet. Tests were administered in Quincy, Illinois (by the author) and in Canton, Missouri (by Denise Skrip).

18

This diagnostic test required completion of statements, as for example "I live __ Washington Street," where the correct preposition must be entered in the blank. Tests were administered by student assistants at Quincy College.

19

This composite description was derived from 75 cases. Some factors regarding our procedure should be made clear: a) cases where clients were participating in psychological counseling or reading service activity outside our normal services were excluded from this study; b) the claim that there was a "failure to develop a self-corrective mechanism" is based on the client's own comments during testing and inventory; c) inventory was used to corroborate standardized test scores where available.

20

Fifteen cases were used; claims regarding "overcorrection" were made by the client and corroborated by records from school services where remediation activity occurred.

21

Twenty-five cases were used.

22

Fifteen cases were used.